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ABSTRACT

This two-part study examined complex decision-making (making a diagnosis) by psychiatric clinicians. In experiment one, 100 psychiatric clinicians were asked to rate items on the Child Behavior Checklist in terms of their relationship to oppositional defiant disorder (ODD). Based on their ratings 27 items were found to be indicative of a diagnosis of ODD. These items were then used to create vignettes of a black, white, or racially unspecified child presenting with no symptoms of ODD, clear symptoms of ODD or possible symptoms of ODD. In the second experiment, a different set of 225 psychiatric clinicians were sent one vignette each and each was asked to give a different diagnosis of the child and to rate how confident they were in their diagnosis via a 0-5 Likert scale. The vignette that ostensibly described a black child got significantly more diagnoses than the other two groups with clinicians being more confident doing so. Additionally, though not statistically significant, the black child got the diagnosis of ODD more often than the white or the racially unspecified child again with higher clinician confidence rating. Results are discussed in relation to the use of heuristics to arrive at judgments. (Contains 49 references, 4 tables, and 11 appendixes.) (Author/GCP)

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Running head: Race & ODD

The Effect of Race on the Diagnosis Of Oppositional Defiant Disorder

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Abstract

Objective: This two-part study examined complex decision-making (making a diagnosis) by psychiatric clinicians. *Method:* In experiment one, 100 psychiatric clinicians were asked to rate items on the Child Behavior Checklist (CBCL) in terms of their relationship to ODD. Based on their ratings 27 items were found to be indicative of a diagnosis of ODD. These items were then used to create vignettes of a black, white or racially unspecified child presenting with no symptoms of ODD, clear symptoms of ODD or possible symptoms of ODD. In the second experiment a different set of 225 psychiatric clinicians were sent one vignette and each was asked to give a differential diagnosis of the child and to rate how confident they were in their diagnosis via a 0-5 Likert scale. *Results:* The vignette that ostensibly described a black child got significantly more diagnoses than the other two groups with clinicians being more confident doing so. Additionally, though not statically significant, the black child got the diagnosis of ODD more often than the white or the racially unspecified child again with higher clinician confidence rating. *Conclusions:* Results are discussed in relation to the use of heuristics to arrive at judgments. The patient variable *race* influences complex decision making in the clinical setting via heuristic pathways.

Introduction

Numerous studies have demonstrated that biases exist in the clinical environment. It has become increasingly evident that there are times when the biased, unsubstantiated beliefs of the clinician are used to fill in the blanks in the diagnostic process. Examples can be drawn from medicine (Adebimpe, 1981; Pavkov, Lewis & Lyons, 1989; Kilgus, Pumariega & Cuffe, 1994; Melfi, Croghan, Hanna & Robinson, 2000; Maynard, Fisher, Passamani & Pullum, 1986; Dumont & Lecomte, 1987; Schwartz & Abramowitz, 1975; Lopez & Nunez, 1987; Elstein, 1999; Franks & Clancy, 1993; McKinlay, Burns, Durante, Feldman, Freund, Harrow, Irish, Kasten & Moskowitz, 1997; Johnson, Kurtz, Tomlinson & Howe, 1986; Jones & Gray, 1986; Mollica, Blum & Redlich, 1980; Neighbors, Jackson, Campbell & Williams, 1989; Strakowski, Lonczak, Sax, West, Crist, Mehta & Thienhaus, 1995; Mort, Weissman & Epstein, 1994; Lawson, Hepler, Holladay & Cuffel, 1994), psychology (Umbenhauer & Dewitte, 1978; Schwartz; Fagley, 1988; Dawes, 1986; Nezu & Nezu, 1989; Lichtenberg, 1997; Dawes, 1989; Hamilton, Rothbart & Dawes, 1986; Lopez, 1989), public health (Neighbors, 1984; Snowden & Cheung, 1990; Whaley, 1998; Shiloh, 1994) and the social sciences (McNamara & Williams 1999). For example, for many years it was widely accepted that women had a much lower risk and rate of cardiovascular disease (CVD) than men. As a result, women were less likely to receive invasive procedures, and were referred to specialists later than men (Berra, 2000; Harris & Douglas, 2000; Kulbertus & Legrand, 1999; Philbin & DiSalvo, 1998; Swahn, 1999; Thurau 1997; Vogels, Lagro-Janssen & van Weel, 2000; Wong, Froelicher, Bacchetti, Barron, Gee, Selby, Lundstrom, Swain & Truman, 1997). Recently, it has been demonstrated that not only do more women die from CVD than men, but that there is a positive relationship between the type of procedures offered, the delay prior to

referral to a specialist and the death rate (Thurau, 1997). Over time, the number of individuals misdiagnosed accumulates and is seen in aggregate form as unexplained differences between the two groups. (Dawes, 1986; Hamilton, Rothbart & Dawes, 1986; Lopez, 1989; Lichtenberg, 1997; Schwartz, 1991; Umbenhauer & Dewitte, 1978).

Studies by Lawson, Hepler, Holladay & Cuffel, (1994), Pavkov, Lewis & Lyons, (1989) and Snowden & Cheung (1990) have noted racial imbalances in psychiatric diagnoses. These and other studies (Adebimpe, 1979; Devine, 1989; Elstein, 1999; Garb, 1995; Kilgus, Pumariega & Cuffe, 1995; Lopez, 1989; Pavkov, Lewis & Lyons 1998; Whaley, 1996) conclude that, based on, percent of general population, African Americans and other minorities are over represented in certain diagnostic groupings. For example, Kilgus et al. (1995) found that black adolescents were more likely to be involuntarily committed at time of admission and given an "organic/psychosis" diagnosis than their white counterparts in a year-long study of a state mental health facility. Jones et al. (1986) found, "that being black and in need of psychiatric treatment carries a high risk of being labeled schizophrenic." From these findings, many have concluded that the clinician's preexisting beliefs do indeed influence how the patient's symptom-complex is interpreted. These beliefs, activated automatically to deal with the uncertainty and that may not have a basis in reality, become a part of the evaluative process. They introduce bias in how the clinician responds to such patient variables as age, race and gender (Dawes, 1986; Dawes, 1989; Dumont & Lecomte 1987; Elstein, 1999; Fagley, 1988; Garb, 1995; Lichtenberg, 1997; Lopez & Nunez, 1987; Nezu & Nezu, 1989; Schwartz & Abranowitz, 1975; Schwartz, 1991; Shiloh, 1994). These errors, made on the individual level, are displayed as disparities between groups such as male and female, or black and white when seen in aggregate form. It is clear than that the type of diagnosis

a patient receives is not only a function of his or her presenting symptoms but also involves the clinician's response to the aforementioned patient variables.

Oppositional Defiant Disorder (ODD) is a disorder usually first diagnosed in childhood or adolescence. It is part of the Disruptive Behaviors Disorders (DBD) spectrum that includes Conduct Disorders and DBD not otherwise specified (NOS). The Diagnostic and Statistical Manual of Mental Disorders 4th ed.: (DSM-IV RT, 2000) defines ODD as "a recurrent pattern of negativistic, defiant, disobedient, and hostile behavior toward authority figures that persists for at least 6 months." The DSM-IV requires that there be some level of impairment of functioning by stating, "the disturbance in behavior causes clinically significant impairment in social, academic, or occupational functioning." In addition the child must exhibit at least four or more of the following behaviors:

1. often loses temper
2. often argues with adults
3. often actively defies or refuses to comply with adults' request or rules
4. often deliberately annoys people
5. often blames others for his or her mistakes or misbehavior
6. is often touchy or easily annoyed by others
7. is often angry and resentful
8. is often spiteful or vindictive

ODD is one of the most common psychiatric diagnoses given in childhood (Buckner & Bassuk 1997; Costello, Angold, Burns, Stangl, Tweed, Erkanli & Worthman, 1996; Keenan, Shaw, Walsh, Delliquadri, & Giovannelli, 1997; Lavigne, Gibbons, Christoffel, Arend, Rosenbaum, Binns, Dawson, Sobel & Isaacs, 1996; Rey, 1993). The required symptom constellation for this disorder involves many behaviors commonly seen in the developing child and adolescent. Since many of these behaviors are seen in normal development, the qualifier "often" was chosen to help differentiate the normal behaviors seen in the developing child from an

aberrant manifestation of that same behavior (Angold & Costello, 1996). Although most children are not spiteful or vindictive, children do lose their tempers. At times they argue and refuse to comply with requests from adults. Children can be deliberately annoying and angry. They are sometimes resentful, touchy and have been known to blame others. However, how does one measure "often?" Would six angry outbursts in a six-month period constitute "often?" Do three angry outbursts, two refusals of adult requests, four times blaming others, and five times of being touchy over a six-month period give rise to the conclusion that the child is displaying a "recurrent pattern of negativistic, defiant, disobedient, and hostile behavior toward authority figures?" The clinician is forced to make a judgment about the child's behavior based on loosely fitting terms like "often," "negativistic," and "disobedient." The subjective latitude inherent in these terms increases the need for information about the child and his/her circumstances. With no definitive test and a less than concise definition in DSM-IV-TR it seems strange that ODD is one of the most commonly given diagnoses in childhood.

Before exploring a possible explanation, there is a need to demonstrate that the hypothesized phenomenon exists.

In Experiment One, psychiatric clinicians were asked to rate items on the Child Behavior Checklist (CBCL) in terms of their relationship to ODD. Based on their ratings 27 items were found to be indicative of a diagnosis of ODD. These items were then used to create 9 (factorially crossed) vignettes of a either a black, white or racially unspecified child presenting either with no symptoms of ODD, clear symptoms of ODD or possible symptoms of ODD. In Experiment Two these vignettes were sent out to another set of clinicians to test the hypothesis that the patient variable, *race*, significantly affects clinicians' evaluative judgments. We expected to see this effect

as a significant difference in the number of vignettes of the black child being diagnosed with ODD as compared to the white or racially unspecified child. Additionally, clinicians were hypothesized to give significantly more diagnoses to vignettes depicting the black child, at a higher confidence rating as compared to the white or racially unspecified child.

Experiment I

Method

Participants

100 psychiatric clinicians (psychiatrists, psychologists, and social workers), who routinely assess children and adolescents for psychopathology and who practice in the Chicago metropolitan area were asked to participate. Clinicians were selected randomly from mailing lists obtained through journals, associations (i.e....American Psychological Association) and hospital registries. 325 names and addresses of these clinicians were placed in a hat. The first 100 names drawn from this hat were labeled "group I" and were asked to participate in Experiment I of the study. The remaining 225, group II, were asked to participate in Experiment II.

Materials

The Child Behavior Checklist CBCL (Achenbach et al., 1991), is an empirically based, reliable assessment tool used to assess child and adolescent psychopathology (see Appendix A). The responses are used to develop a profile that is compared to a normative sample.

The CBCL obtains reports from the caregiver concerning the child's:

1. Competencies, including daily activities such as hobbies, sports, chores..., social interactions and school function.

The caregiver must compare the child's level of ability and amount of time spent in daily activities, social interactions and school function by checking boxes labeled: none, don't know, less than average, average, or more than average. Scores from each item of a competency are summed to get a total score for each.

2. Problem areas for the child are addressed via 112 items on the CBCL. The dominant focus of these items are behavioral and emotional issues, (i.e., argues a lot, behaves like opposite sex). The caregiver must circle either "0"= not true, "1"= somewhat or sometimes true; or "2"= very true or often true, in the past six months for each item.

3. Any disabilities the child might have or concerns related to the child are addressed with open-ended questions.

Parents or parent surrogates complete the questionnaire, which is then scored. Results are compared to percentiles, and standard scores derived from relevant reference groups of peers. Through statistical procedures that allow the identification of co-occurring problems, eight syndrome scales have been derived. Each item in the syndrome scales is summed and a profile is developed and compared to a normative sample. These scoring profiles are used to determine if the child demonstrates any clinically significant

problem areas that can be related to any of the eight syndrome scales. These scales are: withdrawn, somatic complaints, anxious/depressed, social problems, thought problems, attention problems, delinquent problems, and aggressive behavior. A ninth scale, (other problems), is composed of items that are not consistently related to the other scales. The CBCL also gives a total problem item score and scores for internalizing and externalizing groupings of syndromes.

Survey instrument (developed by the author, see appendix B). Consisting of 112 items, this survey examines how clinicians view clinically significant scores in the syndrome groupings, and individual items on the CBCL in terms of a diagnosis of ODD. Clinicians were asked to use a 6- point Likert scale (0-5) to rate how important a clinically significant score on the syndrome scales, externalizing and internalizing groupings of the CBCL is in determining a diagnosis of ODD. They were also asked to rate which problem items are most indicative of ODD. The clinicians were told to use "0" if a clinically significant score on the item is not at all indicative of a diagnosis of ODD and "5" if the item is highly indicative of a diagnosis of ODD.

Procedure

The 100 clinicians in group I were sent packages containing a CBCL, a scoring profile and a survey instrument, with accompanying instructions and a self-addressed stamped envelope. Twenty-two clinicians completed surveys and returned them. Five unopened packages were returned. Two opened packages were returned but surveys were not completed because the clinician had retired.

Results

Means were computed for the 112 Likert scales of the 22 completed surveys. Recall that a 6-point scale (0-5) was used, where a score of three for an item would be considered indicative of ODD. This definition revealed 27 CBCL items with means equal to or greater than 3.0. These items are shown in Table 1. Eighteen of these items, having means equal to or greater than 3.5, were selected to be used to construct the vignettes for Experiment II. These are found in Table 2 (and are the asterisked items in Table 1). The selection of 3.5 as the cut-off ensured that there would be a manageable number of items to build representative scenarios of ODD without excluding those items considered important by most clinicians.

The results indicated that group I clinicians choose items from the CBCL that reflect a "negativistic, defiant, disobedient, and hostile pattern of behavior" (DSM-IV TR 2000), corresponding to the DSM-IV criteria for ODD. This can be seen in item 22; "disobedient at home", item 3; "argues a lot" and item 21; "destroys things belonging to his/her family or others". However, none of the clinicians of group I rated any of the 112 items only with scores of four and five. Of the 18 items with means of 3.5 or higher, six items (33%) had a range of five (the maximum), seven (39%) had a range of four and the remaining items had a range of three. The standard deviation (s.d.) of these 18 items ranged from 0.80 to 1.55. Only three items 22, 23, and 25 had a s.d. < 1.

Table 1 CBCL Items with means equal to or greater than 3.0 (asterisked items had means of 3.5 or above)

*03. Argues a lot
15. Cruel to animals
*16. Cruelty, bullying, or meanness to others
*20. Destroys his/her own things
*21. Destroys things belonging to his/her family or others
*22. Disobedient at home
*23. Disobedient at school
*25. Doesn't get along with other kids
*26. Doesn't seem to feel guilty after misbehaving
*37. Gets in many fights
*39. Hangs around with others who get in trouble
41. Impulsive or acts without thinking
*43. Lying or cheating
48. Not liked by other kids
*57. Physically attacks people
*67. Runaway from home
68. Screams a lot
72. Sets fires
*81. Steals at home
82. Steals outside the home
*86. Stubborn, sullen, or irritable
*90. Swearing or obscene language
94. Teases a lot
*95. Temper tantrums or hot temper
*97. Threatens people
101. Truancy, skips school
106. Vandalism

Table 2. CBCL Items Having Means Greater or Equal To 3.5

CBCL Item	Minimum	Maximum	Mean	Std. Dev.
22	2.00	5.00	4.55	0.80
23	2.00	5.00	4.52	0.82
03	0.00	5.00	4.27	1.28
21	1.00	5.00	4.00	1.11
86	1.00	5.00	3.98	1.07
95	2.00	5.00	3.98	1.03
37	1.00	5.00	3.95	1.09
90	1.00	5.00	3.93	1.05
39	0.00	5.00	3.86	1.36
25	1.00	5.00	3.82	0.85
43	2.00	5.00	3.77	1.15
16	0.00	5.00	3.73	1.55
57	0.00	5.00	3.68	1.32
97	1.00	5.00	3.57	1.20
26	2.00	5.00	3.55	1.14
20	0.00	5.00	3.55	1.26
67	1.00	5.00	3.52	1.26
81	0.00	5.00	3.50	1.57

Table 1. Minima, Maxima, Means and Standard Deviations of the 18 items from the Child Behavior Checklist that had means greater than or equal to 3.5 on a Likert scale with a maximum of 5.

Discussion

These results clearly show that group I clinicians see certain items on the CBCL as being representative of symptoms of ODD. However, based on individual scores and the aggregate data there appears to be a lack of consensus as to which items/symptoms constitutes ODD, and of these, which are most indicative of this disorder. These results reflect the relative state of uncertainty associated with ODD, as first noted in its DSM-IV definition.

Experiment II

Making clinical judgments is at best a difficult task. Though many facts may be known about the patient, and his/her circumstances, the clinician is still faced with the daunting

challenge of forming all the pieces into a coherent whole.

There is always some uncertainty associated with this process and the possibility for error is ever-present. As the amount of uncertainty increases, so does the probability of error. This "error," may be due in large part to the activation of automatic (involuntary) processes that use the unsubstantiated beliefs of the clinician to arrive at a judgment that may be biased. Experiment II will look more closely at how the uncertainty associated with ODD interacts with the patient variable *race* and its affect on clinical judgment.

Method

Participants

The 225 clinicians who were not included in Experiment I. 52 responded. 5 were missing demographic information. None were spoiled.

Materials

Clinical vignettes (developed by the author, appendices C, D and E). Using information from the surveys, profiles of children were developed that portray either unmistakable behavioral/emotional symptoms indicative of ODD (see Appendix C); a child who clearly does not demonstrate symptoms of ODD (see Appendix D); or finally, a marginal, unclear profile with elements that are somewhat representative of ODD (see Appendix E).

Vignettes were constructed from analysis of completed surveys collected in experiment I. Each of the scores for 112 problem items on the survey were summed and totaled across the completed surveys. A mean was derived which indicated how clinicians saw the item in terms of its relationship to (ODD). Means of 3.0 and above were interpreted to imply that the item has a

relationship to ODD, with higher means indicating stronger relationship. Those items that had means of 3.5 and above were used to construct the vignettes. Modifiers such as "always", "sometimes" and "never" were used to turn these items "off" or "on," depending on the vignette. Vignette A, which profiles ODD, was constructed using these items "turned on", i.e., uses the modifiers "always" and "often". Vignette B has these items "turned off" and uses the modifiers "never" and "seldom". Vignette C uses the modifiers, "sometimes" and "on occasion." Only the race of the child (black, white or no mention) of the child and the use of modifiers, (always, sometimes, or never) varies; all else was held constant. Accordingly, there are white, black and racially unspecified versions of vignettes A, B, and C yielding a total of nine vignettes. All vignettes are of male children of the same age and socioeconomic status.

Procedure

The 225 clinicians of group II were sent data collection sheets (see Appendix F). Each sheet contained one of the nine randomly chosen vignettes, space to write a differential diagnosis for the child profiled and a scale to rate their confidence in this diagnosis. They also received a supplemental information sheet (see Appendix G) containing a summary of cognitive and developmental testing for the individual profiled that indicated that the child was "normal". The accompanying cover letter (see Appendix H) contained instructions to give a differential diagnosis for the individual profiled in the vignette. In addition they were asked to use a Likert scale to rate how confident they were in their diagnosis, where; 0 means "not at all confident, and 5 means "very confident". In addition, participants were asked to sign, date and return a consent form (Appendix I).

Vignettes were randomly assigned to clinicians by placing labels containing the nine different categories in a hat. Twenty-five labels with "A white", twenty-five with "A black", and twenty five with "A unspecified". Twenty-five with "B white", "B black, and twenty five with "B unspecified" were created ...until there are two hundred and twenty five labels (twenty-five for each category of vignette). A label was drawn from a container (without replacement) and paired to a clinician. Twenty-five clinicians were sent vignette A (black child). Twenty-five were sent vignette A (white child) and so on. For participating, clinicians were entered into a lottery with the chance of winning a $200 prize.

Results

Data sheets were returned from 52 clinicians. Their demographics are as follows:

Variable	Level	Number
Gender	Male	19
	Female	30
Type	Psychologist	16
	Psychiatrist	17
	Social Worker	18
Years in Practice	< 4 years	7
	5- 10 years	10
	>10 years	29
Race	White	40
	Black	1
	Other	5

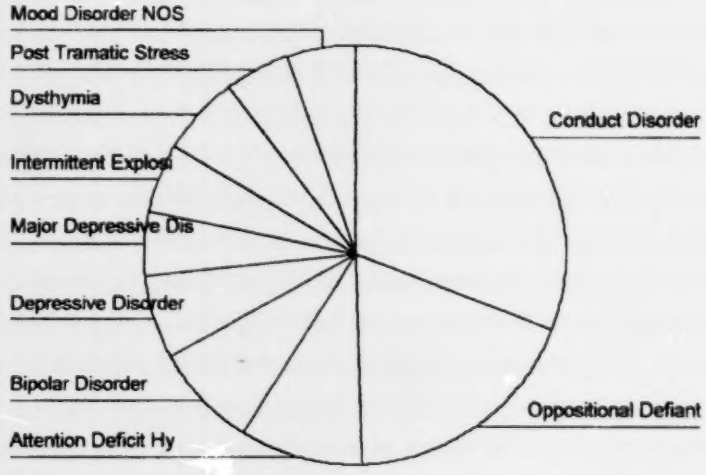
Clinicians responded to vignettes with 34 different diagnoses. 17 of these were clinical disorders or other conditions that may be the focus of clinical attention (axis 1) DSM-IV. These are listed below with the percent of the clinicians that gave that diagnosis. *

Axis 1 Disorder	Percent
Conduct Disorder	57.7
Oppositional Defiant Disorder	34.6
Attention Deficit Hyperactivity Disorder	17.3
Bipolar Disorder	15.4
Depressive Disorder	11.5
Dysthymia	11.5
Major Depressive Disorder	9.6
Intermittent Explosive Disorder	9.6
Post Traumatic Stress Disorder	9.6
Mood Disorder	9.6
Adjustment Disorder	7.7
Disruptive Disorder	5.8
Anxiety Disorder	5.8
Impulse Control Disorder	3.8
Obsessive Complusive Disorder	1.9
Psychotic Disorder NOS	1.9
Affective Disorder	1.9

* Numbers represent percent of clinicians that gave the diagnosis as part of their differential diagnosis, thus the total will not equal 100%.

Of these 17 diagnoses, 10 were listed at least 10% of the time and were included in subsequent analyses. These were:

Diagnoses listed by at least 10% of clinicians



Analysis

Convergent & Divergent Validity of Scenarios

Of the 10 disorders diagnosed by more than 10% of the 52 clinicians, only ODD, conduct disorder and attention deficit hyperactivity disorder (ADHD) belong to "disruptive behavior disorders first diagnosis in infancy, childhood and adolescence" according to DSM-IV. The seven others belong to other DSM-IV classifications, for example, mood or, anxiety disorders. To check that the scenarios differed along the intended dimension, in this case, their relationship to (ODD), separate analyses of variance for each of the 10 most frequently given diagnoses were computed. Each analysis used one binary coded diagnosis, e.g., Conduct Disorder, as the DV and the type of scenario, (ODD, possible, ODD, not ODD) and race of the child (black, white, unspecified) and their interaction as the IVs. Results indicated that scenario type was a significant predictor of diagnosis only for Conduct Disorder ($F = 29.7$; $df = 2, 43$; $MSe = 3.636$; $p < .005$), Oppositional Defiant Disorder ($F = 12.1$; $df = 2, 43$; $MSe = 1.240$; $p < .05$), and Attention Deficit Hyperactivity Disorder ($F = 17.6$; $df = 2, 43$; $MSe = .509$; $p < .01$). None of the other ANOVAs were significant (largest $F = 3.4$; $df = 2, 43$; $MSe = .168$; $p > .1$).

To test the hypothesis that the child's race would be a significant predictor of the diagnosis of (ODD), the results of the previously described ANOVAS were examined to see if there was a main effect of race on any of the 10 diagnoses. Race was not a significant predictor for any of the 10 diagnoses (largest $F = 2.8$; $df = 2, 43$; $MSe = .165$; $p > .1$). There were no significant interactions (largest $F = 2.5$; $df = 2, 43$; $MSe = .289$; $p > .05$).

To determine whether the variable, *race*, had any effect on the diagnoses a new variable, number of diagnoses given, was created. This variable was used as the DV in an ANOVA with race, scenario type and their interaction as IVs. There was a significant main effect of race on

number of diagnoses suggested by the clinicians ($F = 7.7$; $df = 2, 43$; $MSe = 9.0$; $p < .05$). Number of diagnoses, confidence ratings and descriptive statistics including the mean number of diagnoses for each race are shown in Appendix J and Appendix K. Figure1 shows the mean number of diagnoses given by race of the child described in the vignette with errors bars representing the 95% confidence limits. There was also a significant effect of scenario type on the number of diagnoses ($F = 16.7$; $df = 2, 43$; $MSe = 19.2$; $p < .05$). On average, Black children received 45% more diagnoses than children whose race wasn't specified and 56% more diagnoses than white children with the same presenting information. The mean number of diagnoses (with error bars representing the 95% confidence limits) for each of the vignette types is shown in Figure 2.

Figure 1: Mean Number of Diagnoses by Race

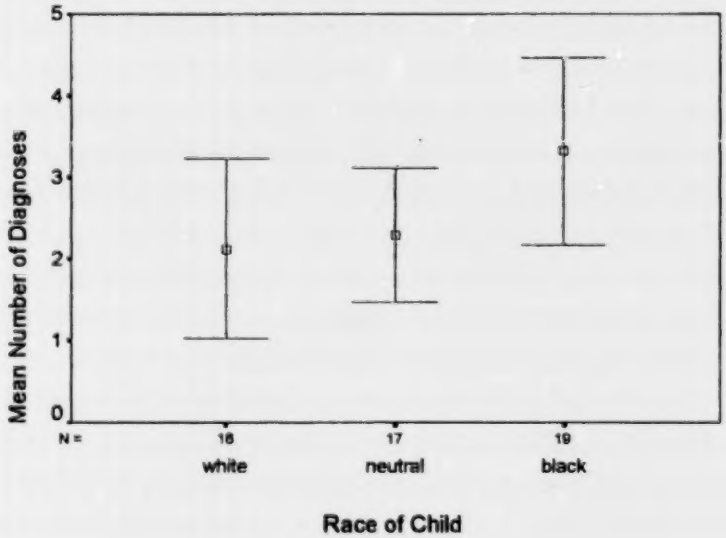
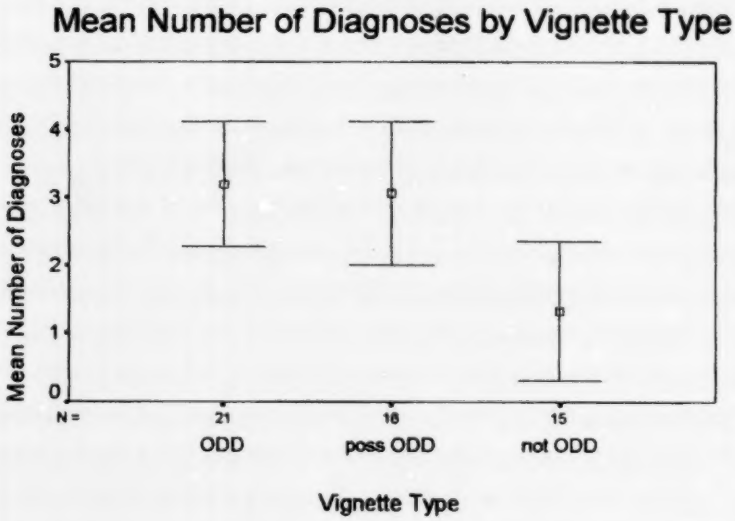


Figure.2



Clinicians confidence rating

To test the hypothesis that race would be a predictor of how confident clinicians were in assigning the diagnosis of ODD the previously described ANOVAs were recomputed with confidence as the DV. Race was not found to be a significant predictor of clinician confidence ($F = .301$; $df = 2, 40$; $MSe = .939$; $p > .5$). A Pearson coefficient correlation was performed to determine if there was a correlation between clinician confidence and number of diagnoses, however this was not significant ($r = .063$, $p > .05$). Clinician's confidence rating by race is displayed in Table 3, and by vignette type in Table 4.

Table 3. Clinician Confidence by Race

Clinician Rating	Black	Unspecified	White
0-1	1	3	5
2-3	8	5	1
4-5	9	9	8
Totals	18	17	14

Table 4. Clinician Confidence by Vignette Type

Clinicians Rating	ODD	Possible ODD	Not ODD
0-1	3	0	6
2-3	3	7	4
4-5	12	9	5
Totals	18	16	15

Discussion

As both ADHD and Conduct Disorder share many symptoms with ODD, it is not surprising to find that diagnosis of these disorders co-varies with the presence/absence of the symptoms of ODD. That the remaining seven diagnoses do not co-vary with the ODD symptoms is taken to indicate that the intended manipulation of the degree to which the child described is exhibiting symptoms of ODD was successful.

Race was not found to be a predictor of the diagnosis of ODD nor was it found to be a significant predictor of clinician confidence. It seems reasonable though, given the prevalence of this diagnosis and inherent uncertainty attached to it that follow-up experiments should be conducted to establish the reliability and validity of the 18 items used to construct the vignettes used in these experiments. These items could be the basis of an ODD scale that, if proven valid and reliable, would reduce the uncertainty and possibly allow greater insight into this disorder.

Both Race and Vignette type predicted number of diagnoses. This makes logical sense for vignette type because the vignettes were constructed to mimic kids who were exhibiting clear symptoms of behavioral disturbances, possible symptoms of behavioral disturbances or no symptoms of behavioral disturbances. However, even though it is not reasonable for race to play

the same role as symptomotology does in diagnosis, the present study indicated that it does. How then did *race* factor into the clinicians' decision-making processes?

Making judgments/decisions under uncertainty has been the focus of many studies (Brenner, Koehler & Tversky, 1996; Dawes, 1986; Dumont & Lecomte, 1987; Elstein, 1999; Fagley, 1988; Garb 1995; Jacobs & Potenza, 1991; Shiloh, 1994; Tversky & Kahneman, 1974; Tversky & Kahneman, 1996). Tversky and Kahneman (1974) have proposed that individuals use mental shortcuts as a way of making such judgments. These shortcuts, called "heuristics" (pathways that lead to automatic processing), allow predictions to be made that might otherwise require the complex and time-consuming estimation of probabilities. However this ease of prediction has a cost, namely; the limited validity of the information used to arrive at these judgments. One's unsubstantiated beliefs introduce a bias that can lead to serious errors in the decision-making process. Three types of heuristics have been described. They are representativeness, availability and anchoring /adjustment.

The representative heuristic (Tversky & Kahneman, 1974; Tversky & Kahneman, 1996; Jacobs & Potenza, 1991; Dawes, 1986; Hilton & von Hippel, 1996) is used when there is a question of classification. Symbolically, *A* must belong to, or have originated from *B*, based on the resemblance of *A* to *B*. For example, you arrive at home on a hot summer afternoon looking for something cool to drink. A large pitcher filled with ice and a clear liquid is found in the refrigerator. You pour a glass from the pitcher, and are just about to drink from it, when someone yells, "don't drink my science fair project." Clearly, your belief about the pitcher's contents differed from what the pitcher actually contained. This belief was based on the resemblance of the pitcher's contents to water.

The availability heuristic is used when variables/events appear to occur together leading to a belief that there is a relationship between these variables/events. For example, Billy comes home from school and heads straight to the cookie jar on the counter. Before he can lift the lid his mom yells, "you're hyper enough. Don't eat any more sweets. " Billy's mom holds the generally accepted belief that there is an association between sugar and hyperactivity. This belief is activated when she sees Billy about to reach for some cookies. That there is little or no evidence to support this belief (high uncertainty) is of little consequence. The apparent association is strong and will therefore activate the belief. These associations are generated from the real or imagined increased frequency of their co-occurrence. The real or imagined co-occurrence of these variables leads to the formation of an associative bond. The higher the frequency of the purported occurrences, the stronger the bond.

Anchoring and adjustment occurs when initial information, the anchor, leads to the formation of beliefs that biases subsequent judgments in the direction of the initial information (Elstein, 1999; Fagley, 1988; Tversky & Kahneman, 1974; Tversky & Kahneman, 1996). For example, Kim told all her friends that John was a jerk and the worst date she ever had. She complained about the movie they saw, the restaurant where they ate and how John just did not know how to treat a girl. What she did not tell her friends was that she kept John waiting for 60 minutes while she got dressed. When he mentioned that they would be unable to go to the movie he had originally chosen she blamed him. They finally decided to go to a different movie with a later start time that caused them to forfeit their dinner reservations at one of the better restaurants. The movie was a "dud" and John spoke very little to Kim at dinner, but she more than made up for it by complaining about how terribly the evening had gone. By the time John pulled

up in front of Kim's house he was so angry and upset at her for blaming him for all that had happened that he did not get out and walk her to her door. Several months later John asked Claire, a friend of Kim's, if she would go out with him. She was about to say "yes" when she remembered all the awful things Kim had said about him. Lying, Claire made an excuse about seeing someone else and how she was too busy to go out.

Consider the clinician trained in an urban environment and who sees large numbers of black patients with severe mental illness. Could this lead to a general belief about the severity of mental illness in black patients? Are associative bonds between race and behavior created by the disproportionate acts of aggression, scenes of poverty, substance abuse and child negligence reported in the media, all of which out-weigh examples of positive actions or achievements of minorities? Do differences in culture, use of language, and understanding of how the world works create situations ripe for misunderstandings between clinician and informant? The beliefs held by the informant can lead to the withholding of critical information, or can result in the giving of misleading or erroneous answers that become the substrate upon which future decisions are made. These and other scenarios highlight possible routes by which beliefs (especially when uncertainty is high) can lead to bias, and possible error in the evaluative process. These errors will lead to evaluations that are misleading and contribute to the formulation of a diagnosis that may be incorrect. This could in-part account for the disparities in diagnosis between groups -- male/ female, rich/ poor – that have become increasingly evident in the literature (Johnson, Kurtz, Tomlinson & Howe 1986; Jones & Gray, 1986; Kilgus, Pumariega & Cuffe, 1994; Lawson, Hepler, Holladay & Cuffel, 1994; McKinlay, Burns, Durante, Feldman, Freund, Harrow, Irish, Kasten & Moskowitz, 1997; Melfi, Croghan, Hanna & Robinson, 2000; Mollica, Blum & Redlich,

1980; Mort, Weissman & Epstein, 1994; Neighbors, Jackson, Campbell & Williams, 1989; Strakowski, Lonczak, Sax, West, Crist, Mehta & Thienhaus, 1995).

Additional follow-up experiments should be aimed at studying how and/or whether the various heuristics, representativeness, availability and anchoring and adjustment affect clinical decision making. For example, the representative heuristic could be examined by comparing the diagnoses of clinicians who treat patients from highly integrated communities to those who treat patients in non-integrated communities. Since clinicians from the two groups would have developed very different beliefs concerning race and behavior, one would predict that there would be significant inter group differences in both the number and kind of diagnoses the black child received as compared to the white and racially unspecified child.

One could test to see if the availability heuristic is operating by having one group of clinicians read a report about mental illness in blacks before giving the diagnosis and having another group read the same report only using Eskimos as the subject before having them give the diagnosis. If the availability heuristic is operating one would predict significant inter group differences for the number and type of diagnoses given the black child as compared to the white and racially unspecified child.

Lastly, anchoring and adjustment can be examined by giving different "baseline" statistics in the vignettes. For instance by manipulating "prior information" (the baseline), concerning the black child in the vignettes. Based on this manipulation one would predict significant inter group differences for the number and type of diagnoses given the black child compared to the white and racially unspecified child if the anchoring and adjustment heuristic is operating.

The ever-present possibility of error in the clinical environment with its inherent high level of uncertainty would benefit greatly from these and other experiments in discerning the role heuristics may play in decision-making. These experiments would demonstrate that some portion of the error is introduced through bias via heuristic pathways ultimately leading to a diagnosis that is inappropriate and more importantly a delay in the appropriate treatment of the patient. Clinicians would then be more accepting of the possibility that their personal beliefs related to patient variables such as *race* play a role in the clinical assessment process and begin the process of reducing it's affect on decision-making.

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Appendix A
Child Behavior Checklist (CBCL)

Appendix B

There are 112 questions that make up the problem items on the Child Behavior Checklist. These items are related to eight syndrome scales and one scale (other problems) that contain problem items that are not consistently associated with the eight syndrome scales.

The eight syndrome scales are;

1. Withdrawn
2. Somatic Complaints
3. Anxious/Depressed
4. Social Problems
5. Thought Problems
6. Attention Problems
7. Delinquent Behavior
8. Aggressive Behavior

In your assessment of a patient, on a scale of 0 - 5 which syndrome(s) scale do you consider most indicative of a diagnosis of Oppositional Defiant Disorder?

Please circle 0: If you consider scores in the clinical range on this scale to be not at all indicative of ODD.

5: If you consider scores in the clinical range on this scale to be highly indicative of a diagnosis of ODD.

Withdrawn:

0 1 2 3 4 5

Somatic Complaints:

0 1 2 3 4 5

Anxious/Depressed:

0 1 2 3 4 5

Social Problems:

0 1 2 3 4 5

Thought Problems:

0 1 2 3 4 5

Attention Problems:

0 1 2 3 4 5

Delinquent Problems:

0 1 2 3 4 5

Aggressive Behavior:

0 1 2 3 4 5

The CBCL also groups these syndromes as either internalizing or externalizing.
In your assessment of a patient to what extent do you believe internalizing behavior is indicative of ODD?

Please circle 0: If you consider internalizing behavior not at all indicative of a diagnosis of ODD.

5: If you consider internalizing behavior highly indicative of ODD.

0 1 2 3 4 5

In your assessment of a patient to what extent do you believe externalizing behavior is indicative of ODD?

Please circle 0: If you consider externalizing behavior not at all indicative of a diagnosis of ODD.

5: If you consider externalizing behavior highly indicative of a diagnosis of ODD.

0 1 2 3 4 5

When assessing a patient for ODD on a scale of 0 - 5 which problem items are most indicative of that diagnosis?

Please circle 0: **If the item is not at all indicative of ODD.**
5: **If the item is highly indicative of a diagnosis of ODD.**

For items 1 - 112 on the CBCL please consider how important the content of the question is in your assessment of a patient.

1.	0	1	2	3	4	5	**18.**	0	1	2	3	4	5
2.	0	1	2	3	4	5	**19.**	0	1	2	3	4	5
3.	0	1	2	3	4	5	**20.**	0	1	2	3	4	5
4.	0	1	2	3	4	5	**21.**	0	1	2	3	4	5
5.	0	1	2	3	4	5	**22.**	0	1	2	3	4	5
6.	0	1	2	3	4	5	**23.**	0	1	2	3	4	5
7.	0	1	2	3	4	5	**24.**	0	1	2	3	4	5
8.	0	1	2	3	4	5	**25.**	0	1	2	3	4	5
9.	0	1	2	3	4	5	**26.**	0	1	2	3	4	5
10.	0	1	2	3	4	5	**27.**	0	1	2	3	4	5
11.	0	1	2	3	4	5	**28.**	0	1	2	3	4	5
12.	0	1	2	3	4	5	**29.**	0	1	2	3	4	5
13.	0	1	2	3	4	5	**30.**	0	1	2	3	4	5
14.	0	1	2	3	4	5	**31.**	0	1	2	3	4	5
15.	0	1	2	3	4	5	**32.**	0	1	2	3	4	5
16.	0	1	2	3	4	5	**33.**	0	1	2	3	4	5
17.	0	1	2	3	4	5	**34.**	0	1	2	3	4	5

35.	0	1	2	3	4	5	**58.**	0	1	2	3	4	5
36.	0	1	2	3	4	5	**59.**	0	1	2	3	4	5
37.	0	1	2	3	4	5	**60.**	0	1	2	3	4	5
38.	0	1	2	3	4	5	**61.**	0	1	2	3	4	5
39.	0	1	2	3	4	5	**62.**	0	1	2	3	4	5
40.	0	1	2	3	4	5	**63.**	0	1	2	3	4	5
41.	0	1	2	3	4	5	**64.**	0	1	2	3	4	5
42.	0	1	2	3	4	5	**65.**	0	1	2	3	4	5
43.	0	1	2	3	4	5	**66.**	0	1	2	3	4	5
44.	0	1	2	3	4	5	**67.**	0	1	2	3	4	5
45.	0	1	2	3	4	5	**68.**	0	1	2	3	4	5
46.	0	1	2	3	4	5	**69.**	0	1	2	3	4	5
47.	0	1	2	3	4	5	**70.**	0	1	2	3	4	5
48.	0	1	2	3	4	5	**71.**	0	1	2	3	4	5
49.	0	1	2	3	4	5	**72.**	0	1	2	3	4	5
50.	0	1	2	3	4	5	**73.**	0	1	2	3	4	5
51.	0	1	2	3	4	5	**74.**	0	1	2	3	4	5
52.	0	1	2	3	4	5	**75.**	0	1	2	3	4	5
53.	0	1	2	3	4	5	**76.**	0	1	2	3	4	5
54.	0	1	2	3	4	5	**77.**	0	1	2	3	4	5
55.	0	1	2	3	4	5	**78.**	0	1	2	3	4	5
56.	0	1	2	3	4	5	**79.**	0	1	2	3	4	5
57.	0	1	2	3	4	5	**80.**	0	1	2	3	4	5

81.	0	1	2	3	4	5	**100.**	0	1	2	3	4	5
82.	0	1	2	3	4	5	**101.**	0	1	2	3	4	5
83.	0	1	2	3	4	5	**102.**	0	1	2	3	4	5
84.	0	1	2	3	4	5	**103.**	0	1	2	3	4	5
85.	0	1	2	3	4	5	**104.**	0	1	2	3	4	5
86.	0	1	2	3	4	5	**105.**	0	1	2	3	4	5
87.	0	1	2	3	4	5	**106.**	0	1	2	3	4	5
88.	0	1	2	3	4	5	**107.**	0	1	2	3	4	5
89.	0	1	2	3	4	5	**108.**	0	1	2	3	4	5
90.	0	1	2	3	4	5	**109.**	0	1	2	3	4	5
91.	0	1	2	3	4	5	**110.**	0	1	2	3	4	5
92.	0	1	2	3	4	5	**111.**	0	1	2	3	4	5
93.	0	1	2	3	4	5	**112.**	0	1	2	3	4	5
94.	0	1	2	3	4	5							
95.	0	1	2	3	4	5							
96.	0	1	2	3	4	5							
97.	0	1	2	3	4	5							
98.	0	1	2	3	4	5							
99.	0	1	2	3	4	5							

My name is Joseph Day, I am a graduate student at Governors State University. I need to collect preliminary data for my thesis regarding the way the Child Behavior Checklist should be used to diagnose Oppositional Defiant Disorder, and would appreciate your help. It is my intention to assemble a panel of experts and have them complete the accompanying instrument. I would very much like for you be a member of the panel. I hope that you can take time from your busy schedule and provide your insights into this process. I have enclosed a questionnaire that will take about thirty minutes to complete. You will also find a blank CBCL, and a sample profile. The blank CBCL can be used to read the problem items (questions 1 - 112), and the sample profile will provide you with the syndrome scales, externalizing and internalizing groupings. Please answer the questions on the questionnaire with an eye toward the content of the problem item and the syndrome scale.

You will be providing information that will be used to determine how the CBCL should be used in assessing and arriving at a diagnosis of Oppositional Defiant Disorder. When complete, you can return the questionnaire to me via the enclosed self-addressed envelope.

Your name was randomly selected from a list of clinicians practicing in the Chicago-land area. Your anonymity will be protected. All data will be presented as aggregate, (means, etc.) and no individual respondents will be identified. No identifying information should be placed anywhere on the questionnaire.

Your participation in this project is greatly appreciated and I would like to thank you in advance for your help.

Thank you again,

Joseph Day

Appendix C

Black scenarios
"A" ODD
Billy is a nine year-old black male who lives with his mother, father and three sisters. He is in the 4th grade. He is often disobedient at home and school. He never seems to feel guilty after misbehaving. He frequently destroys his things, and steals, and has run away from home at least six times. He regularly gets into fights and seems to only hang around children who get into trouble. He has physically attacked others twice his size. Billy argues with everyone. He doesn't get along with his sisters or any of the children in the neighborhood. He is mean and cheats whenever he plays with them. He's always swearing, having temper tantrums, and threatening. Billy frequently destroys his sister's belongings. He also breaks articles of furniture in the home and other things that don't belong to him. He's mostly irritable and stubborn.

White scenarios
"A" ODD
Billy is a nine year-old white male who lives with his mother, father and three sisters. He is in the 4th grade. He is often disobedient at home and school. He never seems to feel guilty after misbehaving. He frequently destroys his things, and steals, and has run away from home at least six times. He regularly gets into fights and seems to only hang around children who get into trouble. He has physically attacked others twice his size. Billy argues with everyone. He doesn't get along with his sisters or any of the children in the neighborhood. He is mean and cheats whenever he plays with them. He's always swearing, having temper tantrums, and threatening. Billy frequently destroys his sister's belongings. He also breaks articles of furniture in the home and other things that don't belong to him. He's mostly irritable and stubborn.

Racially unspecified scenario
"A" ODD
Billy is a nine year-old male living with his mother, father and three sisters. He is in the 4th grade. He is often disobedient at home and school. He never seems to feel guilty after misbehaving. He frequently destroys his things, and steals, and has run away from home at least six times. He regularly gets into fights and seems to only hang around children who get into trouble. He has physically attacked others twice his size. Billy argues with everyone. He doesn't get along with his sisters or any of the children in the neighborhood. He is mean and cheats whenever he plays with them. He's always swearing, having temper tantrums, and threatening. Billy frequently destroys his sister's belongings. He also breaks articles of furniture in the home and other things that don't belong to him. He's mostly irritable and stubborn.

Appendix D

Black scenario
"B" Not ODD

Billy is a nine year-old black male who lives with his mother, father and three sisters. He is in the 4th grade. He is never disobedient at home or school. He always seems to feel guilty for anything he does wrong. He never destroys his things, steals or tries to runaway. He never gets into fights or hangs out with kids who get into trouble. Billy is very timid and quiet. Children have bullied and physically attacked him. He never argues with anyone, is not mean, or cheats and goes out of his way to get along with his sisters and everyone else. He has never tantrum, swore, or threatens anybody. He does not destroy his sister's belongings, or breaks furniture in the home or any other thing that does not belong to him. He is never irritable or stubborn.

White scenario
"B" Not ODD
Billy is a nine year-old white male who lives with his mother, father and three sisters. He is in the 4th grade. He is never disobedient at home or school. He always seems to feel guilty for anything he does wrong. He never destroys his things, steals, or tries to runaway. He never gets into fights or hangs out with kids who get into trouble. Billy is very timid and quiet. Children have bullied and physically attacked him. He never argues with anyone, is not mean, or cheats and goes out of his way to get along with his sisters and everyone else. He has never tantrum, swore, or threatens anybody. He does not destroy his sister's belongings, or breaks furniture in the home or any other thing that does not belong to him. He is never irritable or stubborn.

Racially unspecified scenario
"B" Not ODD
Billy is a nine year-old living with his mother, father and three sisters. He is in the 4th grade. He is never disobedient at home or school. He always seems to feel guilty for anything he does wrong. He never destroys his things, steals, or tries to runaway. He never gets into fights or hangs out with kids who get into trouble. Billy is very timid and quiet. Children have bullied and physically attacked him. He never argues with anyone, is not mean, or cheats and goes out of his way to get along with his sisters and everyone else. He has never tantrum, swore, or threatens anybody. He does not destroy his sister's belongings, or breaks furniture in the home or any other thing that does not belong to him. He is never irritable or stubborn.

Appendix E

Black scenario
"C" Possible ODD
Billy is a nine year-old black male who lives with his mother, father and three sisters. He is in the 4th grade. He sometimes is disobedient at home and school. There have been times when he doesn't appear to feel guilty after misbehaving. He on occasion has destroyed his things, has stolen things, and twice ran-away. He sometimes gets into fights and at times will hang out with children who get into trouble. He once physically attacked another child who was twice his size. He can be argumentative and has had trouble getting along with his sisters and other children in the neighborhood. He has been mean to them at times and on three occasions was caught cheating while playing with them. Sometimes he will tantrum, swear and threaten kids. Billy has destroyed a few of his sister's toys. On two occasions he broke articles of furniture in the home and other things that did not belong to him. Sometimes he can be irritable and stubborn.

White scenario
"C" Possible ODD
Billy is a nine year-old white male who lives with his mother, father and three sisters. He is in the 4th grade. He sometimes is disobedient at home and school. There have been times when he doesn't appear to feel guilty after misbehaving. He on occasion has destroyed his things, has stolen things, and twice ran-away. He sometimes gets into fights and at times will hang out with children who get into trouble. He once physically attacked another child who was twice his size. He can be argumentative and has had trouble getting along with his sisters and other children in the neighborhood. He has been mean to them at times and on three occasions was caught cheating while playing with them. Sometimes he will tantrum, swear and threaten kids. Billy has destroyed a few of his sister's toys. On two occasions he broke articles of furniture in the home and other things that did not belong to him. Sometimes he can be irritable and stubborn.

Racially unspecified
"C" Possible ODD
Billy is a nine year-old male living with his mother, father and three sisters. He is in the 4th grade. He sometimes is disobedient at home and school. There have been times when he doesn't appear to feel guilty after misbehaving. He on occasion has destroyed his things, has stolen things, and twice ran-away. He sometimes gets into fights and at times will hang out with children who get into trouble. He once physically attacked another child who was twice his size. He can be argumentative and has had trouble getting along with his sisters and other children in the neighborhood. He has been mean to them at times and on three occasions was caught cheating while playing with them. Sometimes he will tantrum, swear and threaten kids. Billy has destroyed a few of his sister's toys. On two occasions he broke articles of furniture in the home and other things that did not belong to him. Sometimes he can be irritable and stubborn

Appendix F

How many years have you been in practice? _____. Please check all that apply to you;

Psychiatrist ☐ Social Worker ☐ Psychologist ☐
White ☐ Black ☐ Other ☐
Male ☐ Female ☐
Vignette

Differential Diagnosis

Please rate how confident you are in your diagnosis using the scale below;

Please circle 0: If you are not at all confident in your diagnosis
Please circle 5: If you are very confident in your diagnosis

0 1 2 3 4 5

Appendix G

SUMMARY OF SCORES

WECHSLER INTELLIGENCE SCALE FOR CHILDREN – THIRD EDITION (WISC-III)

Verbal IQ: 104 Performance IQ: 98 Full Scale IQ: 101

Verbal Subtests	Scaled Score	Performance Subtests	Scaled Score
Information	9	Picture Completion	8
Similarities	12	Coding	12
Arithmetic	7	Picture Arrangement	10
Vocabulary	11	Block Design	7
Comprehension	12	Object Assembly	10
Digit Span	8	Symbol Search	12
		Mazes	7

WOODCOCK-JOHNSON TESTS OF ACHIEVEMENT – REVISED (FORM A)

Broad Reading Index: 104 Broad Math Index: 98
Broad Writing Index: 96 Broad Knowledge: 93

Subtests:

Letter-Word Identification	99	Writing Samples	114
Passage Comprehension	111	Science	95
Calculation	98	Social Studies	92
Applied Problems	98	Humanities	92
Dictation	87		

PEABODY PICTURE VOCABULARY TEST (THIRD EDITION, FORM IIIA)
Standard Score: 91 Percentile: 27%

CALIFORNIA VERBAL LEARNING TEST – CHILDREN'S REVISION (CVLT-C)
Total T score (Mean=50): 53

COGNITIVE ASSESSMENT SYSTEM
Attention (Standard Score; X=100): 92

BEERY-BUKTENICA DEVELOPMENTAL TEST OF VISUAL MOTOR INTEGRATION (VMI) Standard Score: 95

Appendix H

My name is Joseph Day and I am a graduate student at Governor's State University. I am collecting data for my Masters Thesis on the way psychiatric clinicians (psychiatrists, psychologist and clinical social workers) arrive at a diagnosis. Enclosed you will find a vignette of a child along with some supplementary information related to his cognitive abilities. You are being asked to make a differential diagnosis based on the information presented here. Your differential diagnosis will list the most probable disorder first; the disorder that you feel has the next highest probability second and so on. In the event that you suspect comorbidity, please list first the disorder that you feel is most representative of the child's current state. You may list as many disorders as you see fit. In addition you are being asked to rate your confidence in your diagnosis. At the bottom of the vignette you will note a scale from "0" to "5", please read the statement above the scale and rate your level of confidence in your diagnosis. Please use the space below the vignette to write your diagnosis. If you need additional space please write on back. It is important that I can read what is written, if at all possible please type your differential or write clearly. When done place your data sheet along with the signed consent in the stamped self-addressed envelope and return to me.

Your name was randomly selected from a list of clinicians practicing in the Chicago land area. Your anonymity will be protected. All data will be presented as aggregate, (means, etc.) and no individual respondents will be identified. At no time will identifying information be paired with data.

Those who return completed forms will be entered into a lottery with the chance of winning a $200 prize. Id numbers have been placed on the data collection sheets and for purposes of the lottery will be used to select the winner. Id numbers will be placed in a hat and the first number selected will win the $200 prize. Once the lottery is complete and a winner selected the list containing the pairings of Id numbers with identifying information will be destroyed before any data analysis is started. Your chance of winning will be determined by the number of respondents. Materials have been sent to 225 psychiatric clinicians.

Your participation in this project is greatly appreciated and I would like to thank you in advance for your help.

Sincerely

Joseph Day

Appendix I

Implied Informed Consent to Participate in Research

The purpose of this research is to collect data aimed at learning how psychiatric clinicians arrive at a diagnosis. You are being asked to make a differential diagnosis of a child presented in a vignette. In addition you are being asked to rate how confident you are in this diagnosis. You must be eighteen (18) years of age or older to participate in this survey. It will take approximately fifteen (15) minutes to complete.

This study is being conducted by Joseph Day a Masters level student at Governor's State University as part of his thesis project.

The results of this research are expected to add to our understanding of how psychiatric clinician assess and evaluate patient information, and then use these results to arrive at a diagnosis.

Foreseeable risks of participating may include the issue of confidentiality. This has been addressed by replacing identifying information of participants with Id numbers. As you will note there is an Id number on the survey instrument. This number will be used to select a winner in the lottery mentioned in the accompanying letter. Once the lottery drawing is complete the list containing the pairing of Id numbers with identifying information will be destroyed. At no time will identifying information be paired with data.

Your participation in this survey is entirely voluntary. Voluntary participation means: You need not answer any question you consider inappropriate. You may stop filling out the survey at any point. If you decline to participate, you may return the survey or destroy it.

This survey is completely anonymous and confidential. To ensure anonymity, please do not put your name on the survey (only on this Informed Consent Statement).

By completing and returning this document, you verify that: (1) you have understood the purpose of this survey, (2) you have voluntarily agreed to participate, and (3) you are at least eighteen years of age.

_____ _____

Participant's signature Date

If you have any questions, comments or concerns about this survey or your rights, please contact Joseph Day at (773) 880-4936.

Results will be provided upon request.

Appendix J

Figure 1. Descriptive statistics including mean number of diagnoses by race

Dependent Variable: Number of Diagnoses

Race of Child	Scenario	Mean	Std. Deviation	N
white	ODD	2.57	2.37	7
	poss ODD	3.00	1.58	5
	not ODD	.25	.50	4
	Total	2.13	2.06	16
neutral	ODD	3.14	1.68	7
	poss ODD	2.20	1.30	5
	not ODD	1.20	1.30	5
	Total	2.29	1.61	17
black	ODD	3.86	2.04	7
	poss ODD	3.83	2.64	6
	not ODD	2.17	2.48	6
	Total	3.32	2.38	19
Total	ODD	3.19	2.02	21
	poss ODD	3.06	1.98	16
	not ODD	1.33	1.84	15
	Total	2.62	2.09	52

Appendix K: Table of Presence (1) or Absence (0) of Conduct Disorder, ODD, ADHD, Confidence rating and Number of Diagnoses

Race: 0=White, 1=unspecified, 2=Black Scenario: 0=ODD, 1=poss ODD, 2=not ODD

RACE	SCENARI	CONDUCT	ODD	ADHD	CONFIDEN	DIAGNOSI
2	2	0	0	0	4	2
2	2	0	0	0	5	1
2	2	0	0	0	3	1
2	2	0	0	0	5	0
2	2	0	0	0	3	2
2	1	1	1	1	2	5
2	1	1	1	0	3	4
2	1	1	0	0	4	4
2	1	1	0	0	4	1
2	1	1	1	0	3	8
2	0	1	1	0	4	4
2	0	1	1	0	3	3
2	0	1	1	1	2	6
2	0	1	1	1	4	7
2	0	1	0	0	4	1
2	0	1	0	1	4	3
2	0	1	1	0	.	3
2	2	0	0	0	0	7
2	1	1	0	0	3	1
1	0	0	0	0	4	1
1	0	1	0	0	5	4
1	0	1	0	1	4	4
1	0	0	1	1	4	2
1	0	0	1	0	1	6
1	0	1	0	0	5	2
1	0	1	1	0	2	3
1	2	0	0	0	5	1
1	2	0	0	0	2	3
1	2	0	0	0	0	0
1	2	0	0	0	0	0
1	1	1	1	0	3	2
1	1	1	0	0	5	1
1	1	1	0	0	5	1
1	1	1	1	0	3	4
1	2	0	0	0	3	2
1	1	1	1	0	4	3
0	0	1	0	0	0	1
0	0	1	0	0	.	7
0	0	0	0	0	0	0
0	0	1	1	0	4	4
0	0	0	0	1	.	1
0	0	0	1	1	4	3
0	0	1	0	0	5	2
0	1	0	1	0	4	2
0	1	1	0	0	3	1
0	1	1	0	0	5	4
0	1	1	0	1	4	5
0	1	1	1	0	5	3

RACE	SCENARI	CONDUCT	ODD	ADHD	CONFIDEN	DIAGNOSI
0	2	0	0	0	5	1
0	2	0	0	0	1	0
0	2	0	0	0	1	0
0	2	0	0	0	0	0

Number of cases read: 52 Number of cases listed: 52

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